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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,116	08/29/2000	James D. Barnette	BARNETTE 2-2	2342
47394	7590	12/20/2004	EXAMINER	
HITT GAINES, PC LUCENT TECHNOLOGIES INC. PO BOX 832570 RICHARDSON, TX 75083			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/652,116	Applicant(s) BARNETTE ET AL.	
	Examiner Qutub Ghulamali	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-28 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/07/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/22/2004 have been fully considered but they are not persuasive. The Examiner has given due consideration to Applicant's arguments but firmly believes that the cited references reasonably and properly meet the claimed limitation as rejected and therefore, respectfully disagrees with the Applicant's remarks.

Applicant's argument – "Yang does not teach selecting one of a plurality of intermediate samples thereby providing an output sample that corresponds to a phase of an oscillator as recited in claims 1 and 8." Instead, Yang, teaches that sample rate conversion can be achieved using interpolation, wherein each output sample is computed as a sum of a number of weighted input samples (See col. 1, lines 20-23). Further, the Applicants argue that, "the cited combination of Paulos and Yang does not provide a *prima facie* case of obviousness of claims 1 and 8."

Examiner's response - In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. See *In re Rilckaert*, 9 F. 3d 1531, 1532, 28 USPQ 2d 1955, 1956 (Fed. Cir. 1993) and *in re Fine*, 837 F. 2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to have suggested the claimed subject matter to one of ordinary skill in the art. See *In re Bell*, 991 F. 2d 781, 783, 26 USPQ 2d 1529, 1531 (Fed. Cir. 1993); *In re Fritch*, 972 F. 2d 1260, 1266 n.14, 23 USPQ 2d 1780, 1783-84 n.14 (Fed.

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Cir. 1992); Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F. 2d 1044, 1051, 5 USPQ 2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories Inc, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985). It also cannot show non-obviousness by attacking references individually where, as here the rejections are based on combination of reference. In re Keller, 208 USPQ 871 (CCPA 181).

The Examiner points to a rate converter of Yang, configured to receive and resample input data samples to generate resampled video samples the first sample including a plurality of selector elements wherein **each** processed data sample is generated by delaying an input sample by zero or more clock cycles to correspond to a phase of the clock, the selected processed data samples from the sets, which are associated with a particular phase to be interpolated are combined to generate an output sample (col. 2, lines 1-3, 18-24; col. 25, lines 28-32; col. 26, lines 6-14, 27-46). Yang also discloses the benefit of a sample rate converter by providing the required functionality that are highly desirable and can be efficiently implemented.

The Examiner further relies on the benefits of the rate converter of Paulos applied to the rate converter of Yang to selecting one of a plurality of reprocessed samples associated with the received signal and concludes that one of ordinary skill in the art would have been motivated to combine the references. When an obviousness determination relies on the combination of two or more references, there must be some suggestion or motivation to combine the references. See In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). The suggestion to combine may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved. See id. at 1357, 47 USPQ2d at 1458. Moreover, as long as some motivation or suggestion to

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combine the references is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor. See *In re Dillon*, 919 F.2d 688, 693, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990)(en banc), cert. denied, 500 U.S. 904 (1991) and *In re Beattie*, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992). Thus, as stated by the Examiner, the advantages described by Paulos would have motivated one of ordinary skill in the art to employ the selection of samples in the sample rate converter of Yang.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paulos et al (US Patent 6,208,671) in view of Yang (US Patent 6,573,940).

Regarding claims 1-3, and 8-10, Paulos discloses an asynchronous sample rate resampler converter comprising: an interpolation stage (figs. 2-5, element 301, 502; col. 6, lines 1-13), coupled to a resampler (fig. 3, element 302), configured to receive a 1-bit input signal representing at least a portion of a received propagating along said receive path and generate a plurality of intermediate samples (Plurality is generally regarded by Office as two or more samples) from at least two input samples associated with said 1-bit input sample (col. 1, lines 49-65; col. 2, lines 7-13). Paulos discloses all of the subject matter described above except a selection stage, coupled to said interpolation stage, configured to select one of a plurality of

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intermediate samples thereby providing an output sample that corresponds to a phase of said oscillator. Yang, however, in the same field of endeavor, discloses a rate converter configured to receive and resample input data samples to generate resampled video samples the first sample including a plurality of selector elements wherein each processed data sample (intermediate) is generated by delaying an input sample by zero or more clock cycles to correspond to a phase of the clock, the selected processed data samples from the sets, which are associated with a particular phase to be interpolated are combined to generate an output sample (col. 2, lines 1-3, 18-24; col. 25, lines 28-32; col. 26, lines 6-14, 27-46).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the rate converter of Paulos in the system of Yang because it benefits by providing the required functionality that are highly desirable and can be efficiently implemented in a sample rate converter.

Regarding claims 4 and 11, Paulos discloses adders (figs. 11, 12) resampler comprising of a first adder receiving as input a constant value one (1) and the output signal from the delay circuit, the first adder calculating the sum of the inputs, the first adder providing the sum as an output; a second adder receiving as input the output of the first adder and a negative $T1/T2$ value, the second adder calculating a sum of the inputs, the second adder providing the sum as an output; and a comparator receiving as input the output of the first adder and the $T1/T2$ value, the comparator outputting a HIGH INCR signal if the output of the first adder is greater than the positive $T1/T2$ value, the comparator outputting a LOW INCR signal if the output of the first adder is less than the positive $T1/T2$ value (col. 16, lines 53-64).

Regarding claims 5 and 12, Paulos discloses (fig. 4) resampler comprising filters 402, 404 configured to filter output of upsampler 401 (col. 8, lines 13-30).

With reference to claims 6 and 13, Paulos discloses resampler comprising of multiple filter section 1302 to further reduce the aliases and images in the baseband region (col. 14, lines 19-24).

Regarding claim 7 and 14, Paulos discloses resampler consists of a delay circuit 1105 (figs. 11, 12) as part of the linear interpolator section (col. 11, lines 54-65).

Allowable Subject Matter

4. Claims 15-27 allowed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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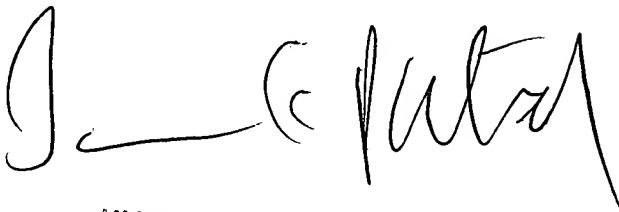
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
December 13, 2004.


JAYANTI PATEL
SUPERVISORY PATENT EXAMINER